Shoichi KAWANO*: **Two new species of *Smilacina* from South-eastern Asia****

河野昭一*：東南アジア産ユキザサ属の二新種**

(Pl. XVI)

In the course of taxonomic studies of the genus *Smilacina* (Liliaceae) during my staying in U. S., the following two plants, herein described as new species, turned out to be undescribed. The collections made in the past from the Burma-Tibet border, South China, and the Himalayas are at present scattered in several U. S., European, and Japanese herbaria, resulting in a lack of any comprehensive study of the members in the area under consideration. However, a fairly good number of collections are preserved in the U. S. National Herbarium, Washington, D. C. (US), Gray Herbarium (GH), Herbarium of Arnold Arboretum (A), New York Botanical Garden, Bronx (NY), Chicago Natural History Museum (F), Kew Gardens (K), Royal Botanic Garden, Edinburgh (E), Muséum National d'Histoire Naturelle, Paris (P), and Department of Botany, Faculty of Science, University of Tokyo (TI). The present investigation was greatly facilitated by examination of collections deposited in the above herbaria.

I wish to thank curators of the above-mentioned herbaria who kindly gave me permission to use valuable collections of *Smilacina* from Asia as well as from North and Central America, without which I was unable to prepare the present paper. My special thanks are also extended to Dr. H. Hara, Tokyo, Mr. J. Raynal, Paris, Dr. Carl-Axel Jansson, Göteborg, and Dr. T. Koyama, New York, for their kind help and invaluable criticisms given throughout this study.

Smilacina crassifolia Kawano, sp. nov.

Herba robusta ca. 1m alta, caule vix vel saepe leviter flexuoso, superne dense pubescenti inferiore paene nudo. Folia 9—12, alternata ascendentia crassa subcoriacea, 13—25 cm longa, 4—8 cm lata, angusti-elliptica aut angusti-lanceolata, brevissime petiolata 5—8 mm longa, apice acuminata, basi obtusa, supra viridia vel atrovirentia glabra, subtus glauca, venis prominentibus paulo pilosis. Inflorescentia paniculata 10—13 cm longa, rachi dense pubescenti, ramis dense multifloris ascendentibus; pedicelli solitarii 7—15 mm longi. Bracteae minutissimae. Flores albidi, perianthiis

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* Department of Botany, Faculty of Science, University of Tokyo, Tokyo 東京大学理学部植物学教室

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obovatis, ca. 4 mm longis, ca. 2.5 mm latis, apice subrotundis, uninervis, basi paulo connatis; stamina ad tubi faucem inserto, antheris ca. 1 mm longis, filamento paulo brevioribus; ovarium globosum, stylo columnari ca. 2 mm longo, apice obscure trilobo.

Specimens examined: China: Yunnan: Salwin-Kiukiang Divide, Swangchiang, alt. 2800 m, among the mixed forest, *T. T. Yu 22087*, July 13, 1938 (**Typus**-A); Salwin-Kiukiang Divide, Newahlung, alt. 2800 m, under the dense forest, *T. T. Yu 19240*, July 9, 1938 (A); Salwin-Kiukiang Divide, NE. of Sinpee, alt. 3000 m, under woods, *T. T. Yu 20240*, Sept. 14, 1938 (A).

Smilacina crassifolia here described may be related to *S. oleracea*. The perianths of these two species are whitish in color and membranaceous with a red nerve in the middle. *S. crassifolia* can, however, be distinguished from *S. oleracea* by the stigma shape, i. e., the former has somewhat capitate stigma but the latter distinctly three lobed one. It is also characteristic that *S. crassifolia* bears rather thick and somewhat coriaceous leaves.

Smilacina fusciduliflora Kawano, sp. nov.

Rhizoma subcrassum. Herba subhumilis 17—37 cm alta, caule superne minute pubescenti inferiore paene nudo. Folia minute pubescentia, 4—6, alternata, ovata, subcrassa, 3.5—5.0 cm longa, 2.2—2.5 cm lata, apice acuta, basi subcordata, sessilia, supra viridia, subtus glauca. Racemus simplex, 3.0—6.5 cm longus; pedicelli solitarii brevi, 1.0—2.0 mm longi. Bracteae minutae, ca. 1 mm longae. Flores fusciduli, 5—11, perianthiis obovatis, 3.5—4 mm longis, ca. 1.5 mm latis, apice subrotundis, uninervis, basi paulo connatis; stamina ad tubi faucem inserta, antheris minutis, 0.3 mm longis, filamentis antheras aequantibus; stylus columnaris ca. 0.8 mm longus, apice obscure trilobus.

Specimens examined: China Yunnan: Salwin-Kiukian Divide, Newahlung, alt. 3500 m, *T. T. Yu 19312*, July 11, 1938 (A)

Burma-Tibet Frontier: Adunq Valley, alt. 12000 ft., *F. Kingdom Ward 9706*, June 26, 1931 (**Typus**-F)

A new species here described as *S. fusciduliflora* appears to be closely related to *S. Souliei* and the *S. atropurpurea* complex, but is clearly distinguishable from the former by the shape, color and size of perianths and the shape of stigma, whereas from the latter by its growth habit, the shape and size of perianths, and the shape, size and hairiness of leaves.

References

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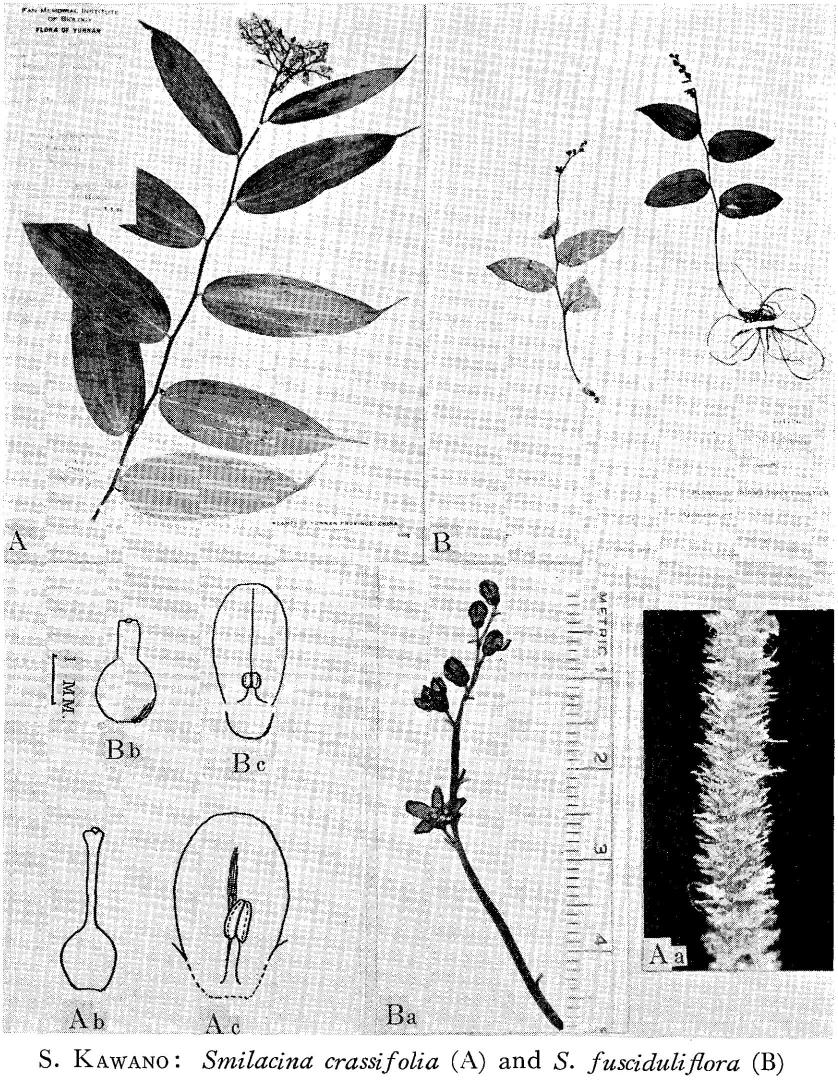
中国雲南省およびビルマ——チベット国境の山岳地帯の森林下に生育する2つの新種を報告する。ヒマラヤ山系から中国南部雲南省，四川省にかけては数多くの変異に豊んだ種類が分布しており，区分点を明らかにするために，Paris, Göteborg, Kew および Edinburgh 植物園より多数のタイプ標本または写真の貸与を受けなければならなかった。*Smilacina crassifolia* は高さ約 1 m に達する大型の草本で，やや厚い草質状の葉をつけ，柱頭は頭状で，花被片は白色，膜質で楕円形を呈し，赤色の脈を1本中央につけ，基部で合着する点が特徴である。近縁と考えられるものにはヒマラヤ山系に分布する *S. oleracea* があるが，この種は明らかに3分岐する柱頭をもつので，*S. crassifolia* から区別できる。

一方，*S. fusciduliflora* は小型の草本で，基部が合着した黒紫色の花被片をつけ，非常に小さい雄芯と短く不明瞭に三裂する柱頭をもつ点が特徴である。この種に近縁と考えられるものには，中国四川省および雲南省にかけて分布する *S. Souliei* と *S. atropurpurea* complex とがあげられる。中国南部からヒマラヤにかけては，これらの他数多くの種が知られているので，くわしい類縁関係の解析は将来の研究にまたねばならない。また，この属の分布域は広く北米，中米の湿った温帯林，冷温帯林下にまでもひろがっており，特に中米，メキシコ，グァテマラ，コスタ・リカの温暖で湿った山岳霧林 (cloud forests) 下には多数の固有な種を産する。こうしてみるとユキザサ属植物の分化は新生代第三紀に広く北半球を被っていた温帯性広葉樹林の変遷史と密接に結びついており，この植物社会のいろいろな構成要素まで含めた総合的解析がユキザサ属植物の進化史を知る上に必要となろう。

Explanation of the plate XVI

Fig. A. Type specimen of *Smilacina crassifolia* Kawano preserved in A; Aa: Pedicel; Ab: Ovary; Ac: Perianth and stamen

Fig. B. Type specimen of *Smilacina fusciduliflora* Kawano preserved in F; Ba: Inflorescence; Bb: Ovary; Bc: Perianth and stamen


FAN MEMORIAL INSTITUTE OF BIOLOGY
FLORA OF YUNNAN
PLANTS OF YUNNAN PROVINCE, CHINA
A
B
1 MM.
Bb
Bc
Ab
Ac
Ba
METRIC 1
2
3
4
Aa

S. Kawano: *Smilacina crassifolia* (A) and *S. fusciduliflora* (B)